

CLAIMS

37 C.F.R. § 1.77(b)(9)

1. Appliance to clean industrial chimneys, which have at least one flue (5) with a noticeably horizontal length; comprising: a cleaning robot (1) having caterpillar-type traction devices (7) to be able to move inside the flue (5) of the chimney to be cleaned, cleaning product spraying devices, scraping devices, suction devices, and image capturing devices connected to lighting devices; a suction cleaner (2) connected by a pipe (18) to an outlet (13) of the cleaning robot (1) so that it has suctioning capacity; at least one compressor (3) connected by means of a pipe (19) to an inlet (9) of the cleaning robot (1) to supply the robot with the required cleaning products; and a control box (4) provided with a connection (21) to appropriate power supply devices and connected by means of a cable (22) to the cleaning robot (1) to control its operation.
2. Appliance, in accordance with claim 1, wherein the cleaning robot (1) comprises a body (6) with caterpillar-type traction devices (7) located at the sides and the corresponding drives inside.
3. Appliance, according to claim 1, wherein the cleaning product spray devices are comprised of at least one fixed nozzle (8) anchored to the body (6) to spray degreasant, water or other products from the inlet (9) connected to the compressor (3).
4. Appliance, according to claim 1, wherein the scraping devices are comprised of a straight brush (10) made up of flexible bristles (20) that are substantially parallel, which when activated by means of appropriate rotating devices, are placed by centrifugal force in a radial position, in order to scrape the inside of the flue (5) of the chimney to be cleaned.
5. Appliance, according to claim 1, wherein the suctioning devices are comprised of a cavity (11) joined by a passage (12) to the outlet (13) where the pipe (18) from the suction cleaner (2) is connected to form a suctioning area; and skirtings (14) to cover the side and back areas between the cavity (11) and the lower plane defined

by the caterpillar-type traction devices (7) to delimit a space that optimises the suctioning process of the suction cleaner (2).

5 6. Appliance, according to claim 1, wherein the image capturing devices are comprised of mini-cameras (15) to take and send images to the control box (4).

7. Appliance, according to claim 1, wherein the lighting devices are comprised of LEDs (16) that provide the necessary lighting for the mini-cameras (15) to be able to take images correctly.

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8. Appliance, according to claim 1, wherein the cleaning robot (1) has a base or jack (17) to connect the cable (22) that links it to the control box (4).

15 9. Appliance, according to claim 1, wherein the control box (4) has a monitor (23) to view the images taken by the mini-cameras (15) in real time or recorded.

10. A chimney cleaning device used for cleaning chimney flues having at least one flue with a substantially horizontal length, comprising:

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- a. a cleaning robot having rotating tracks for propelling the robot inside of the flue of the chimney to be cleaned;
 - b. a cleaning device attached to the cleaning robot for cleaning the material from the flue;
 - c. a suction cleaner on the robot for drawing the material from the flue; and
 - d. a control system for controlling the operation of the robot in the flue.

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